



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/944,598

09/04/2001

Tsuneo Sato

0649-0798P

2439

2292

7590

07/27/2004

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

AMINI, JAVID A

ART UNIT

PAPER NUMBER

2672

13

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,598

Applicant(s)

SATO ET AL.

Examiner

Javid A Amini

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed April 20, 2004 have been fully considered but they are not persuasive.

Applicant on page 9 lines 3-10 argues the references Kondo and Edge fails to substantiate a prima facie case of obviousness.

Examiner's reply: Examination of claim language in independent claim 6 to establish a prima facie case of obviousness, three basic criteria must be met as Applicant discloses.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The preamble discloses a color characteristic data is inputted into the system and the system converts it into output image data. Kondo in fig. 1 item 17 illustrates an input image data (i.e. contains color characteristic data) into the system items 11 and 12. The system converts the data into the output image data (i.e. identified with R, G and B). Kondo in abstract discloses that a memory apparatus of a digital video signal for storing compressed video data. See also Kondo in paragraph 0043 the compressed color data identified of pixel and the address of the memory. There is a motivation to one of ordinary skill in the art to modify the Kondo's invention by using or adding look-up-table (LUT), see paragraph 0011, and increases the IC circuits. Kondo on page 2 paragraph 0026 discloses that the invention is not limited to the embodiment as long as the invention is an one-chip video memory IC circuit that has a restoring circuit. The motivation to modify or combine the Edge's invention illustrated in fig. 4 item 412 device profile link that maps colors between two devices, e.g., from an RGB device to a CMYK device or between two CMYK devices. The device profile link 412 includes,

Art Unit: 2672

for example, a mathematical expression or a look-up table. The color transformer 400 optionally stores the device profile link 412 in a memory, such as a random access memory (RAM), or saves it as a file for multiple transformations between the source and destination device color spaces.

Second, there must be a reasonable expectation of success. One of ordinary skill in the art recognizes the correlation of the function of conversion color data; by inputting color image data into the system and outputting the color data from the two references Kondo, Edge and the Applicant's invention. One of ordinary skill in the art would consider color map item 216 fig. 2 of Edge as an identifier.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicant uses the claim language of Multidimensional (can be considered as X and Y coordinates; more than one dimension) lookup table in claim 6 line 6. By compressing the MLUT, actually compressing the number of bits. Kondo on page 2 in paragraph 0049 discloses that the compressed color data may be used instead of using the memories for the color look-up tables. Kondo in fig. 3 illustrates ID code (i.e. considered as a identifier) and compressed color data. Kondo in fig. 5 illustrates a restoring method.

Examiner's suggestion: Applicant needs to be more specific in independent claim 6's languages, for example: Multidimensional; identifier, characteristic description.

Applicant on page 10 line 10 argues that the reference Edge does not teach MLUT, contrary, in fig. 5 the device link generator 500 includes a device link table builder 502 that creates a look-up table to enable rapid interpolation of destination device coordinates from source device coordinates.

Art Unit: 2672

Applicant on page 12 argues that the reference Kondo stores only one of the compressed color data. Examiner's reply: Kondo in figs. 3 and 4 illustrates that structure and the compressed data in the memory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 and 17-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo, and Edge et al., and further in view of Adams et al. (hereinafter, called Adams),

1. Claim 6.

As per claim 6, Kondo in paragraph 0008, on page 1, teaches the step of "multidimensional lookup table producing means for producing a multidimensional lookup table having color characteristic points representing the supplied image data"; and also in Fig. 5 the decoder number 6, illustrates the multidimensional (the input and output data), as applicant illustrates in Fig. 2. of the specification. Kondo in Figs. 3 and 4 illustrates the compressed identifier and color characteristic data that represents by multidimensional lookup table, "multidimensional lookup table compression means for compressing said multidimensional lookup table," Kondo in paragraph 0044 teaches the step of "wherein the color characteristic data, which is produced by the color characteristic description apparatus, includes the compressed multidimensional lookup table and the identifier, which identifies a restoring method for restoring the compressed

Art Unit: 2672

multidimensional lookup table.” But Kondo does not explicitly specify compressing multidimensional lookup table. However, Edge et al. in col. 1, lines 55-67 teach that the device can approximate colors outside its gamut using the compressed regions of the color space. Many devices are incapable of realizing the complete range of colors in a color space; gamut mapping typically involves compressing or scaling regions of the color space. The teaching of Edge et al. into Kondo since the references are directed to the same process of storing and arrangement for image/color signal using compressed identifiers and color characteristic data (they are part of LUT) with the color management systems that performs gamut mapping. Also Kondo and Edge et al. do not explicitly specify outputted color characteristic data is synthesized with image data. However, Adams et al. in col. 8, lines 13-36 and also in abstract teach outputted color characteristic data is synthesized with image data, see Adams, claim 9. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Adams et al. in the combination of Kondo and Edge et al. in order to take advantage of the single buffering technique of the Adams, that the video frames from source are often interlaced to thereby improve display resolution without increasing the amount of data per frame.

2. Claim 7

As per claims 7, Kondo in paragraph 0008, on page 1, teaches the step of “multidimensional lookup table compression means for producing a multidimensional lookup table having color characteristic points representing the supplied image data;” and also in Fig. 5 the decoder number 6, illustrates the multidimensional (the input and output data), as applicant illustrates in Fig. 2. of the specification. Kondo in Figs. 3 and 4 illustrates the compressed identifier and color characteristic data that represents by multidimensional lookup table, “multidimensional lookup

Art Unit: 2672

table compression means for compressing said multidimensional lookup table”, Kondo in paragraph 0044 teaches the step of “wherein the color characteristic data, which is produced by the color characteristic description apparatus, includes the compressed multidimensional lookup table and software for restoring the compressed multidimensional lookup table.” But Kondo does not explicitly specify compressing multidimensional lookup table. However, Edge et al. in col. 1, lines 55-67 teach that the device can approximate colors outside its gamut using the compressed regions of the color space. Many devices are incapable of realizing the complete range of colors in a color space; gamut mapping typically involves compressing or scaling regions of the color space. The teaching of Edge et al. into Kondo since the references are directed to the same process of storing and arrangement for image/color signal using compressed identifiers and color characteristic data (they are part of LUT) with the color management systems that performs gamut mapping. Also Kondo and Edge et al. do not explicitly specify outputted color characteristic data is synthesized with image data. However, Adams et al. in col. 8, lines 13-36 and also in abstract teach outputted color characteristic data is synthesized with image data, see Adams, claim 9. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Adams et al. in the combination of Kondo and Edge et al. in order to take advantage of the single buffering technique of the Adams, that the video frames from source are often interlaced to thereby improve display resolution without increasing the amount of data per frame.

3. Claim 8

As per claim 8, Kondo in paragraph 0009, page 1, teaches the step of “A color characteristic description apparatus according to claim 7, wherein color characteristic data which is produced

by said color characteristic description apparatus further incorporates an identifier for identifying a restoring method for restoring compressed data and software for converting the restored multidimensional lookup table into an ICC profile”.

4. Claim 17

As per claim 17, Kondo in paragraph 0008, on page 1, teaches the step of “a multidimensional lookup table producer for producing a multidimensional lookup table; and also in Fig. 5 the decoder number 6, illustrates the multidimensional (the input and output data), as applicant illustrates in Fig. 2. of the specification. Kondo in Figs. 3 and 4 illustrates the compressed identifier and color characteristic data that represents by multidimensional lookup table, “a compressor for compressing said multidimensional lookup table, Kondo in paragraph 0044 teaches the step of “wherein the color characteristic description apparatus outputs color characteristic data, which includes said compressed multidimensional lookup table and an identifier for identifying a restoring method for restoring said compressed multidimensional lookup table.” But Kondo does not explicitly specify compressing multidimensional lookup table. However, Edge et al. in col. 1, lines 55-67 teach that the device can approximate colors outside its gamut using the compressed regions of the color space. Many devices are incapable of realizing the complete range of colors in a color space; gamut mapping typically involves compressing or scaling regions of the color space. The teaching of Edge et al. into Kondo since the references are directed to the same process of storing and arrangement for image/color signal using compressed identifiers and color characteristic data (they are part of LUT) with the color management systems that performs gamut mapping. Also Kondo and Edge et al. do not explicitly specify outputted color characteristic data is synthesized with image data. However, Adams et al.

in col. 8, lines 13-36 and also in abstract teach outputted color characteristic data is synthesized with image data, see Adams, claim 9. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Adams et al. in the combination of Kondo and Edge et al. in order to take advantage of the single buffering technique of the Adams, that the video frames from source are often interlaced to thereby improve display resolution without increasing the amount of data per frame.

5. Claim 18

As per claim 18, Kondo in paragraph 0033, page 3, teaches the step of the digital three-primary-color data R, G, and B corresponding to color tones of the three primary colors of the color picture are obtained by digitally converting original data that has not been compressed (namely, three primary color signals are captured by a video camera or the like).

6. Claim 22

As per claim 22, Kondo in paragraph 0008, on page 1, teaches the step of “producing a multidimensional lookup table in a color characteristic description apparatus; and also in Fig. 5 the decoder number 6, illustrates the multidimensional (the input and output data), as applicant illustrates in Fig. 2. of the specification. Kondo in Figs. 3 and 4 illustrates the compressed identifier and color characteristic data that represents by multidimensional lookup table, compressing said multidimensional lookup table in said color characteristic description apparatus; Kondo in paragraph 0044 teaches the step of “outputting said color characteristic data from said color characteristic description apparatus, said color characteristic data including said compressed multidimensional lookup table and an identifier for identifying a restoring method for restoring said compressed multidimensional lookup table; Kondo in paragraph 0016 teaches

the step of "synthesizing said outputted color characteristic data with image data, which is then outputted as camera output data." But Kondo does not explicitly specify compressing multidimensional lookup table. However, Edge et al. in col. 1, lines 55-67 teach that the device can approximate colors outside its gamut using the compressed regions of the color space. Many devices are incapable of realizing the complete range of colors in a color space; gamut mapping typically involves compressing or scaling regions of the color space. The teaching of Edge et al. into Kondo since the references are directed to the same process of storing and arrangement for image/color signal using compressed identifiers and color characteristic data (they are part of LUT) with the color management systems that performs gamut mapping. Also Kondo and Edge et al. do not explicitly specify outputted color characteristic data is synthesized with image data. However, Adams et al. in col. 8, lines 13-36 and also in abstract teach outputted color characteristic data is synthesized with image data, see Adams, claim 9. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Adams et al. in the combination of Kondo and Edge et al. in order to take advantage of the single buffering technique of the Adams, that the video frames from source are often interlaced to thereby improve display resolution without increasing the amount of data per frame.

7. As per claim 19, the step of using a colorimeter to detect the different colors is obvious because an instrument or device for determining and specifying colors. The colorimeter is well known in the art.

8. As per claim 20, Kondo in paragraph 0016 teaches the step of the memory apparatus comprising a memory portion for storing the color compressed video data and a color-restoring portion for restoring the color compressed video data into original video data (image data). But

Kondo and Edge et al. do not explicitly specify outputted color characteristic data is synthesized with image data. However, Adams et al. in col. 8, lines 13-36 and also in abstract teach outputted color characteristic data is synthesized with image data, see Adams, claim 9. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Adams et al. in the combination of Kondo and Edge et al. in order to take advantage of the single buffering technique of the Adams, that the video frames from source are often interlaced to thereby improve display resolution without increasing the amount of data per frame.

9. As per claim 21, Kondo does not explicitly specify a repairing method, however Adams et al. 4B illustrates an input data stream S1 which includes a series of 4-bit color indicators and a modified data stream S2 in which the 4-bit color values are converted to 8-bit indicators in accordance with the present invention.

10. As per claim 23, Kondo in paragraph 0056 teaches the characteristic points in compressed color data.

11. As per claim 24, see rejection of claim 23.

12. Claims 25 and 26, Applicant uses the term (color intensity data), it is very obvious to have a broad term as an intensity, brightness or luminance data to represent a color. Applicant should specify a range, a percentage or etc., of the intensity to distinguish the opacity.

Conclusion

Application/Control Number: 09/944,598
Art Unit: 2672

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/944,598
Art Unit: 2672

Javid A Amini
Examiner
Art Unit 2672

Javid Amini

Jeffery A. Brien
JEFFERY BRIEN
PRIMARY EXAMINER